

Guidelines for processing data online via Web Application

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General Information: Ecology's ITSO Operations provides for the most part shared application server environments for hosting custom applications. Because of this, there is risk that an application that places more demand on the server resources or un-regulated access can severely impact other applications and potentially the business of the agency. The purpose of this document is to provide general guidelines to project managers, developers, and contractors when building and designing new custom applications to be hosted on these shared environments.

This is a living document as technology evolves to allow better network bandwidth, processing, data caching and storage. Any exceptions to this document must be reviewed and approved by SAT.

File Uploading:

- File size will be limited to 5 megabytes per file for all Gateway applications and 20 megabytes per file for intranet applications. This refers to `maxRequestLength` that can be set in the `web.config` file.
- During application file upload, a graphic meter should be displayed to indicate upload progress. This will help users to know the application is currently processing their upload request and to dissuade the user from clicking around further or exiting the application prematurely.
- Execution time out (`executionTimeout` setting in the `web.config` file) will be set to the default manufacturer value or 90 seconds to prevent hardship on server resources and to avoid Denial of Service (DOS) attacks.

Retrieving/Processing Data:

- Retrieving data from a database to display on the user Interface such as a data-grid should be restricted to 100 records at a time. Paging should be done at the database side or from user history or cache. Developers should avoid returning entire tables to the data grid or doing the paging on the UI side.
- For processing data, which may include reading large amounts of data, joining with many other tables, summarizing, calculating data and returning results to the user, batch processing should be implemented as compared to real time processing. Under this scenario, the application should collect information from a user session and then pass it down to the database tier for batch scheduled processing. After the database tier has executed the request, it can then send the results to a holding table with a flag for the online application to alert users the result is ready to view online.

Load testing:

- New or significant enhancement applications should pass a basic load test based on the expected number of users, data volumes, and processing. Load testing can be done using .NET Load Test Agent or using real users. ITSO Operations will take part and monitor the results of this testing on all servers.
- Applications that have special processing needs or cannot run to completion within standard application parameters will require that SAT approve any modifications to default executionTimeout, maxRequestLength, or any other runtime setting.

Document History

Date	Version	Editor	Change
04-22 -2010	.8 Draft	Son Tran	First proposal
04-26-2010	.9 Draft	Mike Heiser	Editing
05-10-2010	.9.1	Son Tran / Balaji	Editing per SAT suggestion
05-10-2010	1		SAT approved